

**What is Claimed is:**

1. A method of converting digital data, comprising the steps of:
  - binding input digital data into unit blocks constituted by a plurality of bytes;
  - modulation-coding each byte of the input data blocks by using a code conversion table; and
  - allocating a merging bit in a block unit for the modulation-coded input data in a block unit.
- 10 2. The method of claim 1, wherein the each of the input data block is bound in the unit of three to seven bytes.
- 15 3. The method of claim 1, wherein the merging bit allocated in a block unit is made of three bits.
4. The method of claim 1, wherein each of the modulation-coded input data block is encoded into a code word of a fifteen bit length by an 8/15 conversion table.
- 20 5. The method of claim 1, wherein a RDS of the latest input data block is compared to a RDS of the previous input data block to select the merging bit so that the RDS has the minimum value without violating RLL restraints when the latest input data block is produced.
- 25 6. The method of claim 5, wherein the selected merging bit is primarily outputted, and the encoded present input data block is outputted, and simultaneously the

RDS up to the current block is updated to prepare merging bit selection of the next block.

7. A method of digital data conversion, comprising the steps of:

5 performing 8/15 modulation-coding to an input data block in the unit of m byte and simultaneously producing a RDS of the block in the corresponding order; evaluating the RDS of the block in the corresponding order and the RDS of the previous block to select a merging bit; and outputting the selected merging bit, following by outputting the encoded block 10 in the corresponding order, and updating the RDS for selecting a merging bit in the next block in order.

8. A method of recording and reproducing digital data, comprising the steps of:

15 binding input digital data into unit blocks constituted by a plurality of bytes and modulation-coding the bytes; allocating a merging bit in block unit for the modulation-coded input data in the block unit; recording a byte-unit information expressing the number of the bytes constituting each of the data blocks together with data added with the merging bit after 20 modulation-coding; and performing data decoding for the corresponding block by using the recorded byte-unit information.

25 The method of claim 8, wherein each of the input data blocks is modulation-coded and decoded in the unit of three to seven bytes.

10. The method of claim 8, wherein the merging bit is selected from the merging bits of three bit so that the RDS value may be minimum while not violating the RLL restraints.